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USER SERVICES IN A DATA LIBRARY

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There seems to be some confusion as to just what is meant by user services. Although the term is relatively new to the library literature, the concept dates back to at least 1876 when, amongst others, Samuel Swett Green was beginning to argue "the disreableness of...personal intercourse between librarians and readers." Dictionaries of library science or librarianship do not yet define the term, nor do the library administration texts that I have consulted.

David Nasatir (1973) has outlined the components of user services in a data library as consisting of dissemination of data files; analyses on demand for users; training of users; consultation on such subjects as mathematics, statistics, methodology, data analysis, etc; the conducting of training programs; a "current awareness" function acquainting local users with parallel research being done elsewhere as reflected in the catalogues of holdings of other archives; and the creation of machine-readable codebooks. Alice Robbin (1977) has defined user services as consisting of reference (or finding the right data for the right user) training; data and documentation reproduction and dissemination; data preparation, processing, and analysis; project planning; and instruction and orientation. These then are my terms of reference when I speak of user services in the data library/archive context.

Samuel Rothstein (1961) defines reference service as "the personal assistance given by the librarian to individual readers in pursuit of information..." Given this definition, his "reference" = our "user services." His three levels of reference service are minimum, middling, and maximum.

His "minimum" or conservative level of service is that in which the librarian is merely a guide to the use of the collection, and the user is encouraged to be as self-sufficient as possible through user instruction and orientation techniques--a policy of "laissez-faire."

"Middling" service offers a great deal more service to the individual user (especially, in an academic library, to faculty and graduate students), including in-depth searching of the literature, compiling bibliographies, and generally doing a fair amount of the user's work

for him. On the other hand, "conservative" service is given to the undergraduate student, on the assumption that learning to use the library and its resources is part of the educational process, and the student should therefore not be spoon-fed.

"Maximum" or liberal service relates primarily to the situation of a special or corporate library, where the librarian's *raison d'être* is to do that part of the research that involves the literature, leaving the part that involves the laboratory (or whatever) to others qualified in other fields. That is, the emphasis is on the delivery of information, rather than on delivery merely of books, journals, etc., which might contain the information. The information delivered is authentic, relevant, and founded "on the impeccable scholarship of the librarian" (Rothstein, 1961).

The application of this scheme to the data library/data archive spectrum is not difficult.

On the conservative side there is, for example, the new, local-service data library, quietly growing in the bowels of some university structure--in an academic department or computing centre. Because at first it must concentrate on developing internally (you must have a collection before you can provide services based on it), this data library offers only basic services to users: acquisition of machine-readable data files (mrdf) on request, especially if the researcher knows already where a file is to be had; maintenance of data files as they are received from outside sources without much, if any, cleaning or checking for coding, wild punches, inconsistencies, etc.; access to codebooks as they are received from the supplier; and some basic consultation on problems involving data processing and statistical procedures. Difficult problems are referred to experts: computing problems to the programmers in the computing centre, statistical problems to the statisticians in the statistical centre, data identification problems perhaps to the librarians in the library.

The middling level of service is exemplified by the same local service data library several years later, when it has grown both internally and in its services. Because the collection is now large, with many massive and

intricate mrdi, the data library has developed an on-line inventory describing in great detail the collection, to assist not only users but the data library staff as well in identifying and locating specific files. Data files acquired in a "dirty" state are cleaned, because it is easier to clean them at once, while one still has contact with the principal investigator, than several years later when a researcher needs the data and it is found to be unuseable. Codebooks are routinely converted to machine-readable form, because this is the most satisfactory way of ensuring that any user can get access to a copy at any time. (And how else does one economically supply a copy of a Gallup survey codebook to a political science class of 60 on one day's notice?) Special programs are developed, and special-purpose subfiles of data files are prepared, to make things easier (and cut down on hand-holding) for novice researchers, and more especially, as the only way to provide adequate service for 200 freshman commerce students who every year descend on the data library for their annual exercise with CRSP stock price data. (Although the staff has grown, it still cannot provide consulting to 200 students, and the only way to give them satisfactory service is to make the procedure as "idiot-proof" as possible.) Regular orientations, and some impromptu ones tailored to special courses, are given to introduce novices to the facility and its services, and there may even be a manual describing how to search the inventory, how to mount data files, special programs developed for often-used files, etc. There is now a variety of staff expertise that can be called on for consultation. But the "toughies" are still referred to the experts in other departments, and there is still strict adherence to the basic principle that the user should do the actual work himself, because this is after all part of the educational process, and the "true" researcher learns to be self-reliant.

And at the "liberal" far end of the spectrum, I envisage a special purpose data library embedded in a research institution, or a corporation, or a government department. Much of the work of this data library is involved in the actual creation of new data files, the maintenance of on-going data bases, and the secondary analysis of existing files. The data library staff here are experts in computer programming, statistics, sampling, etc.; these experts are part of the research team of any project, handling such details as the technical aspects of research design, the research instrument, actual data gathering, and, later, data analysis and interpretation. Here there is no question of the user doing his own work: The level of service given depends on the expertise of the staff; there is no need for such ancillary services as orientation tours and courses, of "idiot-proof" data files and

documentation for novices, for there are no novices. The data base management system describing the collection is designed for maximum efficiency, and data files and documentation are machine-readable and very clean, because this is the most efficient means of maintaining and updating them.

Each of these levels of service has its own immediacy of purpose; which level of service a data library or archive approaches is dependent on its user community and the constraints placed on it by available funding and staff. Certainly the level of sophistication possible in the maximum service archive is far beyond the developmental capabilities of the small, local-service data library operating on two and a half people. But the techniques can be transported, and techniques which result in greater efficiency for the end user will also generally result in greater efficiency for the data archive staff as well. My dream, from the point of view of our small, local-service data library serving an academic institution, is eventually to make user services so efficient that no user need darken our door again, except to persuade us to acquire a file that we do not already have. There are, I think, several components to this. The first is to make information retrieval as efficient as possible, then to make documentation access as efficient as possible, and finally, to make data access and software access as efficient as possible. These efficiencies need not, of course, be implemented in quite this order; one normally does the easiest things first. But I am going to treat them in the order in which most users approach them.

Efficiency of information retrieval becomes critical when the data library's collection grows beyond the point where any staff member can remember what every file in the collection contains. It then becomes necessary, not only for the sake of users, but also for the sake of staff, to be able to quickly find all particulars about any given data file—not just the principal investigator, title, or date of collection, but the individual variables contained in it. The consensus of practice seems to point to some form of data base management system (dbms). It is a little difficult to ascertain who has such systems operating. We know that Roper Center has had an in-house information retrieval system in operation for some years. We also know that ICPSR has offered (in October of last year) on-line access to its inventory through TELENET. SPIRES seems to be favourite among MTS installations, being in use at the University of Alberta Computing Centre, Stanford University Libraries, and U.B.C. Library. Other systems are being used by the University of Wisconsin-Madison and the University

of Washington. The Data Clearinghouse for the Social Sciences in Canada also had developed a data base management system, although its present fate is unclear. Among these systems, the amount of information offered on any given file varies immensely. None that I have seen, however, includes quite the detail envisioned for the data documentation system that IFDO is supporting, which contains 16 pages of (mostly optional) fields per record. The characteristics most desirable in a dbms for this purpose would seem to be that it:

- be flexible enough to handle a variety of file formats and interrelationships.
- be easy and cheap to maintain.
- have a powerful and flexible searching capability.
- be EASY to teach users to search.
- be available at all times that the computer is up.

In other words, as a user service, it should be capable of informing a user at a remote location of what files a collection contains, and should provide sufficient information to access the data without his visiting the data library.

There is another aspect to the question of efficient information retrieval, the retrieval of information *vis-à-vis* data files not held in the local collection--that is, the identification and location of data files held elsewhere--for eventual acquisition. This is not a problem that can be solved at the level of the local service unit. Present services are dependent on local collections of the inventories of other data libraries or archives, government departments, etc; literature searching; and the intuition of the local data library staff. What is needed is a union catalogue of the holdings of all known disseminators of mrdi, and some efficient means of access to information on what new data files are being created. The movement by ICPSR and the Roper Center towards on-line remote access to their inventories is a major step towards information retrieval. The data base developed by the Data Clearing House for the Social Sciences in Canada, which included the holdings not only of Canadian data libraries/archives, but also the holdings of government departments, the commercial sector, and private individuals, did for a time provide a union catalogue of Canadian holdings of Canadian data files, albeit in a restricted subject area. The data base was unfortunately not made remotely available, and the DCH is now defunct (no cause and effect relationship is implied). What is needed is a similar product at the international level.

Efficiency of documentation retrieval is more involved. Documentation comes in a variety of forms and formats. Some data files have no documentation at all, others have as their documentation only the second paragraph of a personal letter addressed to person X, and yet others have exceedingly complex documentation that is much longer than the data file that it describes. Documentation can be in hard-copy or machine-readable. The utility of machine-readable documentation for user services is obvious. It is the only way that documentation can be made maximally accessible, since in the optimum system, all machine-readable documentation is accessible at all times that the computer is up. Placing extra copies of documentation in a local library does not serve quite the same purpose, since I know of no library that is open as long hours as the computing centre. And a local computer system with a network of remote terminals scattered throughout an institution gives more immediate access than the library, which is invariably at least a twenty minute walk from where the user is (a very important consideration on the West Coast where it rains a great deal). However, to make the documentation machine-readable is not quite good enough. No one wants to read through the whole of the Six Nation Project codebook (Inkeles, n.d.), which occupies 9 linear inches of shelfspace, to find the twenty variables wanted. In order to maximize the efficiency of documentation retrieval, what is needed is some computer-assisted means of searching the codebook, so that one can retrieve just those portions describing variables containing specified key words. The Roper Center's proposed on-line system is designed to retrieve at this level of information. But there are many codebooks which are not amenable to this type of treatment, such as that describing the CANSIM system, which contains over 300,000 time series and as many variable labels. Maintaining a data inventory is one thing, but maintaining this level of information in an on-line data base is, for a small local-service operation, at present quite unfeasible.

Maximizing data access efficiency is dependent on the efficiency of tape mounting procedures in the local operating environment. However, it should be possible to develop a system such that, based on the information given in the information retrieval system, it is possible to gain access to all data files at all times that the host computer is functioning, not just at those times that the data library is open. Desirable features of data access would include: a minimum number of commands to access a file (whether on disc or tape); and maximum simplicity of commands--i.e., mechanical details such as mode, blocking factor, label, reel number, and position should be transparent to the

user. In addition, a data access system can be designed to maintain data security (e.g., check the permit status of computer ID's), collect statistics on tape mounts, perform an SDI function (referral to updated editions of files), and reinforce the moral conditions of data access (such as by cautioning against unauthorized copying for dissemination of files by users).

Of course, efficient access to data and documentation is of little value if one does not also have access to appropriate software. Software acquisition, creation, and support is very much dependent on the institutional structure within which the data archive/library exists. The smaller a local-service data archive/library, the more likely it is to be heavily dependant on the software resources of the host computing centre, with little possibility of influencing the computing centre's decisions as to hardware and software procurements, software to be supported, and future software (or hardware) developments. If the computing centre in question is user-oriented (which is the exception rather than the rule), if it provides comprehensive documentation, user orientation, introductory courses on commonly used statistical packages and programming languages, and extensive programming consultation, then the data archive/library need not provide these services. If, on the other hand, the computing centre is not user-oriented, the problem of providing efficient access to appropriate software becomes serious, and the solutions are neither easy nor cheap. As the amount of computing expertise dedicated to the data library/archive (or employed in it) is increased, however, an individualized level of service can be provided. This may extend to special-purpose housekeeping programs, to improve the efficiency of such invisible services as data file cleaning, rationalizing inventory, tape mounting and security. It may also extend to visible services such as writing a formula for the retrieval of data from a complex database, or creating a program to provide uniform access to and manipulation of aggregate data across several censuses. As the amount of computing expertise dedicated to user services is increased yet further, and basic software for common problems has been provided, yet more elaborate services become possible, such as the development of special purpose software.

Once one has all these systems operating, of course, one must teach one's users to use them. Seminars, special class presentations, and short courses seem to be the normal approach. A good addition is a user's manual, written not for the computer programmer (as most computing documentation is), but for the novice user. A history professor, with almost no computer

experience, should be able, with the help of your manual, to sit down at a terminal, search your inventory for any files containing, e.g., illegitimacy rates in Ontario in the 19th century, have printed a copy of the (short) codebook on the local high-speed printer, and mount your data file, all on a rainy Sunday afternoon.

And then, of course, there are the special purpose subfiles, teaching packages, and special purpose documentation for the 200 Commerce students. Designing this kind of service requires more effort to be put into instructor-education than into student-education. It is essential that the instructor have designed the assignments so that they are appropriate to the data files he wants to use. The data library staff should be given ample warning of the assignment. It must know the expectations of the instructor, and the level of consulting he or she will give the students as part of the course. With adequate preparation by the data library staff, the onslaught can be relatively painless, and will have a marvelous effect on tape mount statistics.

Throughout, I have been considering only "minimum" and "middling" service levels of the data library/archive. At both levels, the user's doing the job is considered part of the educational experience, and self-reliance is something to be fostered. I shall not consider here the extent and nature of special services offered in the maximum level data archive.

Each of the above components is composed of transparent services and apparent services. Apparent services I define as those which the user can see and appreciate. In this category I include the basic provision of information services; acquisition on demand of mrdi; consultation services of all kinds; provision of some kinds of dissemination services (e.g., relieving a principal investigator of the responsibility of maintaining and disseminating his data file himself); insuring efficient access to documentation, data, and software; orientation activities; provision of a user's manual, and so on. Transparent services are those which the user seldom notices or consciously appreciates, including the extensive level of reference services involved in the identification and location of fugitive mrdi, "on spec" acquisition of mrdi, rationalization of tape library and inventory procedures, routine data file cleaning and machine-readable codebook creation, and creation of special-purpose files to support special-purpose software, such as a map file to support graphic retrieval of census data.

Why this distinction? User services are usually the *raison d'être* of the facility, and the reason for its continued funding. Apparent services are directly user-oriented. Transparent services, although often refinements of apparent services, are more often staff-oriented, and only indirectly contribute to that

desirable phenomenon--the satisfied user. My conclusion is that, at the outset, a data archive/library should concentrate on apparent user services, in order to cultivate an active and supportive user community, and only later in its development, when this has been accomplished, develop transparent user services.

REFERENCE TOOLS FOR MACHINE-READABLE DATA FILES

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It would appear to be a rather awesome task to try to summarize the current state-of-the-art in data reference; for surely after 16 years of steady growth in archives, reference materials giving access to the data in such archives should be exhaustive. Yet this is clearly not the case, although some attempts to provide useful reference tools in this area have appeared over the past decade. In the brief report which follows, I have singled out for discussion three categories of reference tools for machine-readable social science data which seem well-established.

Those reference tools which appear to play the most prominent role in directing users to appropriate machine-readable data are: (1) data catalogues describing the contents of individual social science data archives and data libraries; (2) directories describing the contents of more than one archive, or directories within special topical areas; and (3) periodicals, like *ss data*, which have attempted to report at regular intervals information on the holdings of social science data archives.

An attempt will be made to examine each category of reference tool from two very personal perspectives: (1) the user consultant who is continually asked to locate data files which must meet a number of very special conditions; and (2) the editor and compiler who must try to locate all known data files relating to certain topical areas and acquire information on the most recent acquisitions of data archives. In the former role, one is frustrated by the inadequacies in reference tools; in the latter role, one is amazed that we have come as far as we have.

Data Catalogues

Lists of holdings, guides to resources, archive directories, or data catalogues are available from most individual data repositories. Probably the most well-known of those documents which describe individual archives would be ICPSR's *Guide to Resources and Services*, issued on a nearly-annual basis since sometime in the 1960's. Others of this genre would include the recently-issued *SSRC Survey Archive Data Catalogue*, the *Steinmetz Archives: Catalogue and Guide* ((1978)), the *B.A.S.S. Inventaire des Archives Disponibles* (1975), *Catalogue of Machine-Readable Records in the National Archives of the United States* (1975), and the *Lokaliseringsoversigt of the Danish Data Archives* (1978), to mention just a few.

Physically, documents of this type are soft-cover, book-length descriptions of the holdings of a major archive. These are real publications, meant for broad distribution to a national or international clientele. Entries are often arranged according to some broad subject classification scheme which might include such major headings as community and urban studies, elites and leadership, mass political behavior, social welfare, religion, the international system, legislative and deliberative bodies, etc. The individual entries usually include title, author or data collection agency, population covered and/or sampling scheme, time period of study, number of cases and variables, distribution restrictions, and a brief abstract summarizing the purpose of the study and the focus of major categories of variables.

Another type of data archive catalogue is common to a group of archives which serve primarily as regional, provincial, or state-wide resource facilities. These are designed for consumption by individuals beyond the local computing environment as well as scholars from many departments on the local campus. Such catalogues may group entries according to the subject classifications mentioned above, although length and detail of information contained in the entries may vary considerably.

For example, the *Directory* issued in 1978 by the Data and Program Library Service at Wisconsin lists studies according to a reasonably detailed classification scheme, although each individual entry has very limited information. The University of British Columbia *Data Library Catalogue* (1974) has data files arranged alphabetically by title and individual entries are described with considerable detail. The *Annotated Listing of Data Holdings of the Social Science Data Library* at North Carolina organized entries according to a fairly detailed subject classification and at the same time included lengthy descriptions of each data file.

The final type of data archive catalogue is the one usually generated by the data library primarily to serve users of the local computing environment. Like those mentioned above, method of organization and detail in terms of individual data file descriptions vary considerably. Most are mimeographed, multilithed, or reproduced by some inexpensive method; many in fact are produced by line printers from machine-readable bibliographic files of various types. In my filing cabinet are such documents as the *Indiana University Political Science Data Archive Holdings as of May 1, 1971*, *Annotated Listing of Data Holdings, Polimetries Laboratory, October 1975*, *File Inventory (Latin American Data Bank, February, 1973)*, *Compendium of Data Holdings (Center for Quantitative Studies in Social Science, University of Washington, 9/76)*, *Data File Descriptions (Public Affairs Information Service, University of Missouri, 5/2/74)*, "untitled printout" (Project IMPRESS, Dartmouth College, November 1978), and *Data Holdings (1976) with updates* (University of Iowa).

That is a brief review of the types of documents describing individual data archives. Now let us try to determine how useful each of them would be if we had to use them to search for a data file with previously-defined characteristics.

In my view, the usefulness of these catalogues is solely dependent upon (1) the scheme used to arrange the order of the entries in the catalogue; and/or (2) the types of indices that are appended to the list of data

files. Data file descriptions or indices can be arranged by different schemes and below are listed twelve such schemes that have been used in various data catalogues. The schemes are listed according to my own judgement as to their usefulness as a reference tool; "1" is most useful; "12" is least useful.

- 1 subject or substantive categories (and subcategories) produced from keyword descriptors assigned to the data file independent of words in the title
- 2 unit of analysis or universe sampled
- 3 KWIC or KWOC of words appearing in the title
- 4 geographical area or location of sampled units
- 5 year or time period to which the data refer
- 6 author or principal investigator
- 7 data collection agency
- 8 depositor
- 9 first word of title
- 10 year data collected or archived
- 11 sample size or number of units
- 12 study number or archive accession number

No doubt, one may wish to disagree about the priorities suggested in this list, although I do hope that most would agree that "subject or substantive categories produced from keyword descriptors assigned to the data file independent of words in the title," is one of the most important reference schemes. Of course, if we would all heed Sue Dodd's advice on the construction of titles, No. 3 could be equally as important. It should be noted that I have placed author, principal investigator, data collection agency, and depositor indices some distance down the list. This is for a very good reason. In the old days (the late 60's) it was frequently the case that data files were very closely identified with a particular individual or research team, and thus references so arranged made a good deal of sense. Today, however, the number of data sets residing in archives is so large that personal references are starting to fade and the need for references which key on subject classifications, unit of

analysis, and geographical area seem clearly of more importance.

A second area of note is "year or time period" which I have ranked No. 5. My academic training as an historian is, no doubt, part of the reason for the place this item holds on the list, although *time* has become a more important factor in social science research in the past few years. Time is important because of advances in the way we ask survey questions and in the way samples are drawn from populations; older surveys may be less likely to contain the kinds of questions a researcher wants on a certain kind of population. Also the time periods over which certain kinds of surveys have been taken, or certain kinds of questions asked, continue to grow longer, and we are now starting to build up impressive sets of files for longitudinal analyses. In addition, the analyses undertaken on these sets of longitudinal files can themselves be used to build up chronologically-ordered, aggregate files for sophisticated time-series analyses.

At the bottom of my list are things like "the year the data was collected" and "study number" and "archive accession number." These may be important things to know about a machine-readable data file, but they are not, in my view, of any help as a reference item in locating such files. These references are extremely useful for internal archive purposes, but do little to help those outside the archive find appropriate data. They are tools related to the acquisition process, not the data reference process.

The aforementioned priorities in data reference, however, would seem to be somewhat contrary to the actual practice of individual data archives. Upon examination of the data catalogues from thirteen different archives prepared over the past six years, one finds that six of the archives have used the internal study number as either the method of ordering the entries in the catalogue or as the distinguishing feature of a separate index. Another six have used the first word of the title, nine have used author or principal investigator indices, five the geographical area, and only two have used date of the study or time period.

On the other hand, five have used a good subject classification as the basis for ordering entries in their catalogues, while only another three have included useful subject or substantive indices. Only three provided indices to the unit of analysis--a reference which I think is extremely useful.

One does not wish to name names here, but it seems appropriate to award a first prize to the Steinmetz

Archive for the most indices--nine to be exact. Five of the archives provided no indices at all with their data catalogues, although three of these ordered their data entries in such a way as to make the publication somewhat more useful than they might otherwise appear.

This discussion of the usefulness of various indexing schemes should not be taken as specific condemnation of the data catalogue of a particular archive, but has been developed to demonstrate that individual archives may not have always given adequate thought to the way in which descriptions of their holdings will be used by those outside their local computing environment. In addition, some of this talk may prompt further discussion along these lines and perhaps eventually some recommendations.

Directories

A data directory is distinguished from the data catalogues or the lists of holdings just described by one important feature -- it attempts to provide a useful reference tool to the machine-readable holdings of more than one social science data archive or data library. By this definition, few so-called directories would remain in this category. One would be selections from the "Directory of Directories," which appeared in the IASSIST Newsletter in 1977; others are the National Technical Information Service's *Directory of Computerized Data Files and Related Software*, the *Directory of Federal Agency Education Data Tapes*, and Vivian Sessions' *Directory of Data Bases in the Social and Behavioral Sciences*. All of these directories apparently contain references to data held by more than one repository, although in some cases these separate repositories may all be in the United States federal government.

The Sessions volume is probably more widely known among data librarians, so it may be appropriate to discuss its utility as a data reference tool. Published in 1974, and clearly out-of-date now, it is nonetheless of considerable interest because of what it attempted to do. The "major thrust of this directory," according to the Introduction, was "the identification of the nonbibliographic data bases." The title of the volume would suggest a concern with the social and behavioral sciences, but a number of factors undermine the promise of the title.

First, data bases were apparently defined as any systematic collection of data, primarily but not exclusively in machine-readable form. Second,

whether these data bases were in the social and behavioral sciences was left to the reporting agency. Third, those data centers that were included in the volume (and there were over 600 of them) were also self-ascribed. Fourth, major subject classifications in the index represented a strange mixture of academic disciplines and sub-categories with the practice of public administration. And fifth, "it was inevitable that the primary organization of this directory is by data center."

When these five factors are evaluated alongside indices concerning institutional names, data center personnel, and geographical location, one comes up with a rather limited reference tool. The volume has little to do with what would normally be thought of as the "social and behavioral sciences" and in fact concentrates on municipal, county, regional, and other governmental agencies directly involved in the planning or administration of public programs. It is also not really a directory of the data bases, but rather a directory of places that collect and/or store data for purposes other than those normally ascribed to the physical sciences.

To my knowledge, no directory of this type has been attempted since publication of the Sessions volume. Had one been published, we can imagine that we would have wanted it to be organized and indexed in much the same manner as a catalogue describing the holdings of a single data library. The entries might be organized according to some general subject classification scheme, with four or five indices focusing on: (1) a more detailed subject classification scheme; (2) unit of analysis; (3) words appearing in title; (4) geographical area; (5) time period of study; etc.

Anyone considering a project to provide a general guide to machine-readable data in the social sciences or a directory on some special subject area would be well-advised to study the Sessions volume as well as the methods of organization and indexing found in data catalogues of the major data archives and libraries.

Data Periodicals

Periodicals issued on a regular basis provide one mechanism whereby information on the recent acquisitions of social science data archives can be transmitted to users of data reference materials. *s s data* is the prime example of such a periodical and the one that will be discussed in the remainder of this paper. For those not aware of its history and purpose, let us begin here.

s s data began publication in September, 1971, under support from a two-year grant from the National Science Foundation. Its purpose, as stated by G.R. Boynton in the initial grant proposal, was to fill a much-needed gap in reference information on the holdings of social science data archives in the United States and abroad. The grant proposal also envisioned that *s s data* was only a stop-gap measure--something to fill the information void for two or three years until a better system was developed by leading professionals in the data library field.

The plan suggested that *s s data* would reference on a quarterly basis the new acquisitions of all academic social science data archives in the United States and as many Canadian and European archives as possible. It was estimated that this would be 40 or 50 new data sets each quarter or about 180 per year. While this figure probably over-estimated the acquisitions of academic archives in the United States (exclusive of the Roper Center), it was clearly an under-estimation of potential world-wide acquisition activity. The audience for this newsletter was thought to be first and foremost, social scientists, and second, data librarians and individuals involved in reference activities.

That is what *s s data* was supposed to be; what was it initially and what has it become over the past 8 1/2 years?

First, the periodical could not cover comprehensively the acquisition activities of all academic data archives in the United States for two basic reasons: (1) it was never possible at any one point in time to know which data archives were in existence and which ones were not; and (2) among those identified at any one time, the degree of cooperativeness in providing appropriate reference materials for publication varied a great deal. Of the approximately 25 archives who were initially contacted about their participation in the newsletter, only 18 provided a positive response to that request. Some never were heard from and apparently had gone out of business; others simply refused to answer their mail, although it was clear that the archive was still in operation. Those archives that did agree to participate provided information on their holdings at irregular intervals or in spurts.

During the first few years, for example, archives at Wisconsin, Iowa, Illinois, York, and ICPSR and the Roper Center provided information on a fairly regular basis. As other archives joined the list of participants it became more common for an archive to simply send a copy of its latest data catalogue and entries would be selected from these for each issue of the newsletter. A

few, like the State Data Program at Berkeley, the Drug Abuse Epidemiology Data Center, and ICPSR established a regular procedure for transmitting information on new acquisitions, although all except the Drug Abuse archive have stopped doing so. New acquisitions at the Consortium, for example, are now only identified through new catalogues, news releases, announcements, etc., which are received second-hand from other faculty and staff at Iowa. Most archives do send the most recent issues of their data catalogues, and it is through these that most of the entries in *s s data* are obtained. Occasionally, however, batches of new acquisitions and announcements come drifting in from archives which are not otherwise heard from on a regular basis.

Because of the various problems involved in obtaining up-to-date information on the recent acquisitions of data archives, the newsletter has evolved into something a bit different than was originally envisioned. While *s s data* still tries to identify and report new acquisitions, increasingly the focus has shifted to the reporting on data files related to common areas of investigation. Two years ago, this shift in emphasis was officially noted in the newsletter--previously data sets had been reported according to the discipline of the principal investigator. Now they are reported according to subject areas within disciplines, or by areas of concern in public policy formulation, or by new fields of study that represent interdisciplinary approaches. For example, rather than simply grouping a set of files under *political science*, they are now listed under such headings as *elections*, *political attitudes*, or *legislative elites*--the latter being an interdisciplinary grouping of studies conducted by both historians and political scientists. Some recent public policy listings have included the *elderly*, *housing*, *conservation*, and *transportation and travel*; while some additional interdisciplinary listings have included *mobility studies*, *legal studies*, and *demography*.

In addition to listing data files under topical headings, an attempt has been made to reference (when possible) related data files which have appeared in previous issues. A recent issue, for example, included a section on *national legislative elites* which not only included descriptions of nine data files but also referenced sixteen other files appearing in past issues. A few readers have commented that they find this new method of listing and referencing past entries to be very helpful, but the majority of readers have remained silent on the issue.

Readership is another factor which has changed dramatically over the past eight years. During the two-year grant period (1971-1973), the number of subscribers surpassed 1000. The newsletter was distributed free to subscribers in the United States during this period, and most readers were individual social scientists attached to colleges and universities. Less than a quarter were probably institutional subscriptions. When NSF support ended in 1973, subscription fees of \$2.00 for individuals and \$4.00 for institutions were initiated and these have remained the same since then. The number of subscribers dropped rather markedly as soon as an actual fee was charged and in recent years has stabilized at about 400. The character of subscribers, however, has changed considerably. About one-third are IASSIST members who receive subscriptions as part of their annual membership in that organization. Another 50% are institutional subscribers, including primarily university and college libraries, public and private research centers, data archives and libraries, and a few metropolitan public libraries. The remaining 20% are individual subscribers, such as social scientists, information specialists, and planners and researchers in the private sector. Today, *s s data* serves the data reference community and not primarily the individual researcher, social scientist, or community planner.

In concluding this paper, what remains to be done is to reflect on the usefulness of *s s data* and the potential role of such periodicals in the future. *s s data* has not been and never will be able to cover comprehensively all the acquisitions of data centers in the United States, let alone those in Canada or Europe or the Third World. Second, even when references appear in *s s data* they rarely contain enough detail to immediately initiate the data acquisition process, if desired; numerous technical details are missing as well as specific information on all variables. Third, reference centers with a fairly complete set of data catalogues might find little need for periodicals like *s s data*. Fourth, although *s s data* has published descriptions of nearly 1000 data files over the past eight years, one would need to have a complete set of back issues and a cumulative index to easily locate references to particular kinds of files.

Given these criticisms (and all of them and more have been leveled at *s s data* since it began publication), what is the present and future role of such a periodical? The only real contributions that *s s data* can make in its present format are: (1) it can *highlight* the recent acquisitions of archives who are willing to provide such information; (2) it can gather together data files relating to specific disciplinary, interdisciplinary, or

public policy areas; and (3) it can relate sets of data files to those of similar focus that have been described previously. If those functions are enough to justify its continued publication, then the newsletter can go on for some time in the future. However, it is important to raise the possibility that the print medium is now an out-dated mode of communication in the field of data reference. On-line systems at individual archives and projects whereby archives exchange data descriptor tapes certainly hold the promise of a much improved data reference system. Networking and other

developments, such as improved cataloguing of machine-readable data files, also offer interesting possibilities.

It is hard to imagine that one system will dominate the field of data reference in the future, and therefore one important function that organizations like IASSIST can play is to recommend ways in which new and old reference systems can be effectively integrated in the future.

ON-LINE REFERENCE TOOLS FOR THE HARD SCIENCES

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1. Introduction

It is one thing to know or suspect that collections of machine-readable numerical data pertinent to one's discipline or problem may exist; it is something else to find that data, gain access, and use it profitably in one's research. The purpose of this paper is to review briefly the methods presently used to generate and access numeric data bases relevant to the so-called "hard sciences." Special emphasis will be given to the areas of on-line data retrieval and manipulation--areas where the state of the art in the "hard sciences" is generally conceded to be ahead of that in the "soft sciences." The reader wishing an inventory and description of the many scientific/technical data bases that are available worldwide is referred to the references at the end of the paper.

For the sake of clarity, it is useful to define a few terms as they will be used in this paper.

A. (Scientific/Technical) Numeric Data Base

An ordered collection of numbers whose values:

1. correspond to various properties, parameters or attributes of elements, substances or systems;

2. are critically evaluated by experts prior to their being included in the data base.

B. Numeric Data Base System

A numeric data base system consists of one or more machine-readable scientific/technical numeric data bases as defined above plus:

1. programs for searching, retrieving and organizing the data according to user selected criteria and, usually,
2. programs to manipulate the data.

(In general the latter property is what sets a numeric data system apart from a simple handbook or compendium. For example, a search routine may retrieve data giving the co-ordinate positions of the atoms in a given crystal. A simple command permits the user to calculate the various interatomic distances and the angles between the bonds joining the atoms. Another command generates a two dimensional drawing of the crystal projected along any desired axis or plane.)

C. Numeric Data Base System

A numeric data base network consists of one or more interconnected data base systems to which access is gained from a variety of remote locations by appropriate communication links.

II Numeric Data Base Creation

Experience has shown that an essential factor in the long term acceptance and success of a numeric data base system is the existence of an associated data evaluation center--a place where the data relevant to a particular data base are processed, both initially and in a continuing sense, for inclusion in the file. Ideally such a center should be located in an active research laboratory environment and be assured of long-term, stable financial and human resources. In practice, data evaluation centers are often co-ordinated and partly funded by national bodies established for that purpose such as the National Standard Reference Data System in the U.S.A. and the Science Research Council in the U.K. A framework for international co-operation in provided in part by the Committee of Data for Science and Technology (CODATA) and sub-groups of major international scientific organizations such as the International Unions of Pure and Applied Chemistry and of Pure and Applied Physics.

The functions of a data center may be summarized as follows:

- A. Search the world literature, both published and non-published.
- B. Retrieve and index papers and reports within the area of interest.
- C. Extract the numerical data.
- D. Check and evaluate the data with respect to accuracy, overall quality of the work, consistency with previously published values, etc.
- E. Cast the data into the desired format and merge into the file.

It is perhaps instructive to briefly consider the rationale behind some of the attributes and functions desired for a data center. Long-term support with respect to funding and personnel is important because new data are continuously being generated, technical advances tend to make old data obsolete (e.g. too imprecise, too inaccurate, or too narrow in scope) and key personnel, being subject to the vagaries of the human condition,

never last forever.

Critical evaluation filters out inaccurate or poorly documented data. The distilled product of evaluation is a compact, reliable data base which is tractable to handle and provides a real benefit to the researcher who perhaps has neither the resources, time, nor inclination to search the vast open literature himself. Clearly a data base system is no better than the data on which it is founded. If researchers lack confidence in the quality and reliability of the data, they are not likely to use a data base system no matter how sophisticated or elegant the accompanying software may be.

Having a data center located in an active research environment helps to assure that the workers responsible for compiling and evaluating the data stay at the fore-front of their field with respect to theory and experiment. The credibility of the data base is not likely to exceed the scientific credibility of those who produce it.

III Dissemination of Data Bases and Data Base Systems

The information contained in numeric data bases is made available to the "hard science" community in three major modes or "packages" which roughly parallel the definitions given earlier. Naturally, variations and permutations of these modes are also possible.

A. Subscription to a Network

For a fee, which may consist of some combination of annual subscription, connect time and characters transmitted charges, a user connects appropriately to a node of a network and is given access to all of the data base systems for which he has paid. Most applications do not require a very "smart" terminal and the user needs to master only a few simple commands to operate on-line. Because of the small capital investment and the wide variety of information potentially available, this mode of dissemination is most likely to suit the worker who has a considerable range of research interests which tend to fluctuate both in intensity and focus. Usually a network will, of course, support batch and quasi "batch on-line" tasks as well.

Two such networks already functioning are the Chemical Information System in the United States, which has eleven data bases presently available with eight more under test [1], and the Direct Information

Access Network for Europe. A similar network on a smaller scale, which exists now in embryonic form, is being assembled in Canada by the National Research Council. Initially, five data bases are planned: three are crystallographic, covering the areas of metals, organics and inorganics; the fourth is thermochemical; the fifth, already functional, is a program for comparing an unknown infra red spectrum against a collection of some 100,000 or more spectra of known compounds.

B. Lease or purchase of a data base system

In this mode, a user obtains a tape copy of the complete data base and its relevant software for mounting on a nearby, typically institutional, computing system. Assuming the software is adequate for his needs and compatible with the local computer, the user need not have extensive computer expertise nor a "smart" terminal. Researchers benefiting from this means of dissemination would be those who tend to work almost exclusively in one discipline and for whom the storage and usage costs of a local computer would be more favourable than on-line charges. Update tapes would normally be supplied periodically by the data base supplier and the user would agree to distribute the tapes no further than his own institution.

C. Lease or purchase of all or part of a data base

With the proliferation of small yet powerful computers into many laboratories, the option of obtaining a tape copy of an entire data base, or a selected sub-set of it, for private use is becoming more popular. In this distribution mode, the user either requests an actual tape or copies what he needs on-line and proceeds locally from there using his own customized search, retrieval and manipulation routines. Such a user, of course, needs not only to support a mini-computer and its ancillary equipment but needs considerable programming expertise as well. Again, update tapes would be made available from the supplier and restrictions concerning extra institutional use would usually apply.

An example of a user for whom this option might be of value would be a lecturer in thermochemistry who leases the data covering a few hundred compounds of interest and generates an appropriate suite of programs. The pedagogical value is clear. His students are able to tackle practical problems, rather than artificially contrived ones, without tedious calculations causing them to lose sight of the chemical principles involved.

IV Data Bases of Numeric Data Bases

The media employed in cataloguing and marketing numeric data bases for the hard sciences are basically the same as those covering numeric data bases in general. First, there are compendia and directories [2,3,4] which cover a broad range of data bases but provide limited detailed information about any one in particular. Second, there are a number of publications [5,6,7], devoted to on-line non-bibliographical data base methods, technology and management, which periodically review the current world-wide inventory of numeric data bases. Third, there are diffuse or indirect sources which, while less systematic than those just mentioned, often provide the most useful information. In this category are found scientific conferences, journals of the various learned societies, and the very effective "grapevine" formed by scientists and information specialists.

V Conclusion

The future of on-line numeric data bases in the hard sciences appears very promising indeed. With computer technology improving so rapidly because of pressures from many sectors, it is likely the greatest impediment to the growth of numeric data bases as reference tools will be only the lack of imagination and interaction in the supplier/user component of the activity.

References

1. See, e.g., Heller S.R. & Milne G.W.A. American Laboratory 12, 33 (1980).
2. Computer-Readable Data Bases, A Directory and Data Source Book. Martha E. Williams, *et al*, eds. American Society for Information Science, (1979).
3. Directory of Online Data Bases. Ruth N. Landau, *et al*, eds. Cuadra Associates, Santa Monica (Issued semi-annually, quarterly updates.)
4. Eusidic Database Guide. Alex Tomberg, ed. Learned Information, New York (1978).
5. On-Line Review, Learned Information, New York. (Published quarterly.)
6. Online and Database (2 journals). J.K. Pemberton, ed. Online, Inc., Weston, Ct. (Published quarterly.)
7. CODATA Bulletin. CODATA Secretariat, Paris (Published irregularly.)

NEWS AND NOTES

ANNOUNCING THE "ISSC STEIN ROKKAN PRIZE" IN COMPARATIVE RESEARCH

The International Social Science Council, in conjunction with the Conjunto Universitario Candido Mendes (Rio de Janeiro) is setting up a bi-annual prize named after Stein ROKKAN in homage to the memory of this great scholar, to be awarded every two years, starting in 1981, and amounting to \$2,000 U.S..

The prize is intended to crown a seminal contribution in comparative social science research written in English, French or German, by a scholar under forty years of age on 31st December 1981. It can be a manuscript or a printed book or collected works, in each case published after 1979.

Four copies of manuscripts typed double space or of printed works shall be delivered together with a formal application for the prize to the International Social Science Council before 31st March 1981. Manuscripts and publications received shall not be returned.

Works submitted shall be evaluated by the International Social Science Council with the assistance of appropriate referee or referees, under the supervision of the European Consortium for Political Research (ECPR) and its Chairman. The award shall be made by the ISSC General Assembly meeting in November 1981 on the recommendation of the ISSC Executive Committee. Its decision shall be final and not subject to appeal or revision.

The amount of the prize may be shared by two or more applicants, should it be found difficult to adjudicate between equally valuable works submitted.

For further inquiries, please apply in writing to:

The Secretary-General
International Social Science Council
Unesco, 1 rue Miollis, 75015 Paris, France

MINUTES OF IASSIST 1980 MEETING

1. 1981 IASSIST/IFDO Conference. At the May 1979 meeting, the Admin Com voted that IASSIST and IFDO (International Federation of Data Organizations) will sponsor a joint annual meeting in 1981, in France. The IASSIST/IFDO meeting is to be hosted by members of the Centre National de Recherches Scientifiques. The meeting will be held either in Grenoble or Toulouse. At the May 1980 meeting, the Admin Com expressed a strong preference for a Spring 1981 meeting and requested that this information be communicated to the IFDO President and Secretary. The Admin Com noted the importance and success of the workshops offered during the 1980 Conference and recommended that there be workshops offered during the 1981 joint conference. A Program Committee was established consisting of Henk SCHRIK (who also represents Steinmetz Archives in IFDO), Judith ROWE, and Sue GAVREL; *ex officio*: Nancy MCMANUS, Alice ROBBIN. The

Committee also recommended that IASSIST members, Erika VON BRUNKEN (Sweden), Jean-Paul GREMY (France), and Bartlomiej GASIOWSKI (Poland, and member of the Admin Com) be included in the Program Committee. The Admin Com recommended that the Conference be financially independent and proposes cost-revenue sharing. The Admin Com agreed to advance between \$500 and \$600 towards conference planning. The Treasurer will be responsible for establishing the guidelines for IASSIST's financial commitment. The Program Committee members met during the 1980 Annual meeting and began a suggested list of topics, which include policy and practices of distribution of census data; data services (workshop, seminar, sessions), Euronet (practical experiences), recent innovations in data base management systems, anonymization (what, when, how), public opinion

polls (uses, problems). Members of IASSIST are strongly encouraged to communicate suggestions for topics, sessions, and participants to members of the Program Committee.

2. **Revision of the Constitution.** Due to problems in implementing the election procedures during the last election, an election committee consisting of Nancy MCMANUS and Ed HANIS was formed to work on election by-laws which will be applicable to the new Constitution (to include procedures for electing the Administrative Committee and officers). A deadline of December for completing the writing of the by-laws was set. Admin Com members must respond by February 1st with comments. A new Constitution must be prepared to be before the General Assembly in 1981. Harold NAUGLER is responsible for revisions to the Constitution.

3. **Canadian Member of the Administrative Committee.** Pierre LACASSE resigned and must be replaced. An election will be held this summer. The Canadian Secretary will notify all paid-up members of a position vacancy. A new member of the Admin Com will be elected by the end of July.

4. **Treasurer's Report/Status of the Budget.** Increased expenses require an increase in dues/subscription. A new dues structure was recommended. Dues will be sent directly to the Treasurer and no longer to the respective Secretariats, to simplify the accounting and membership records. Dues were increased to: individual membership, \$20; institutional, \$35; and student, \$10. The new fees will be effective March 1, 1981. All members will be sent a letter explaining the new types of membership. A policy was established for dues payment: January 1st, the bill will be sent; payment should be received by March 1st; a reminder will be sent on June 1st. Membership ceases March 1st if the Treasurer has not received the dues for the previous calendar year. The Treasurer will distribute a membership list to the President and Secretaries. (See elsewhere in this issue the Treasurer's Report on the Status of the IASSIST Treasury.)

5. **Membership List Distribution.** The Admin Com set a policy for distribution. The membership list will be distributed only to members and at a cost of \$30. The Treasurer will be responsible for this distribution.

6. **Newsletter.** Back issues will be available to members only as long as they are in print @ \$10/volume. Out-of-print issues will be available at cost. Because of delays incurred in transit, Admin Com members will receive a copy directly via 1st class mail. Guidelines for inclusion of articles need to be drafted. North Holland Publishing Company, through Joseph Raben, editor of *Computers and the Humanities*, has approached IASSIST (via Judith ROWE) to determine whether IASSIST would be interested in having a journal, *Computers and the Social Sciences*, as the Association's official publication. The Admin Com recommended that future discussions and any negotiations be the responsibility of the IASSIST Treasurer, Editor, and U.S. Secretariat, with the final decision to be made by the Admin Com. The outcome of the discussions will be reported by J. ROWE in a subsequent issue of the *Newsletter*.

7. **International Liaison.** H. SCHRIK will obtain more information about the International Federation of Library Associations (IFLA) before the next Admin Com meeting to determine whether it is worthwhile for IASSIST to join and whether IASSIST can fit into the IFLA structure. Unesco's interest in IASSIST, through the U.S. National Commission for Unesco's Social Science Committee (Subcommittee on International Social Science Information), was reported by Admin Com members, J. ROWE and N. MCMANUS.

8. **Committee Structure.** During the last year, the Vice President (P. NIELSON) recommended a new committee structure for IASSIST. The recommendations will be incorporated in the revised Constitution. Admin Com liaisons to the committees were appointed: N. MCMANUS, Education Committee; S. GAVREL, Nominations and Elections Committee; H. NAUGLER, Constitution Committee; S. GAVREL, Membership Committee; S. DODD, Publications Committee.

9. **1980 IASSIST Annual Conference.** The conference coordinators will send a written report with a full discussion of the conference. This report will guide future IASSIST conference planners.

10. **Name Change of IASSIST.** Discussion on the subject was held and carried over to the General Assembly (membership must approve the change).

The following is a report of the Sunday, May 4, 1980, General Assembly meeting.

1. **Treasurer's Report.** The treasurer, E. HANIS, made his annual report to the General Assembly, discussed the new dues structure, and fees schedule. The report, new dues structure, and increase in dues were approved.
2. **Membership List Distribution.** It was moved and approved that the membership list will be distributed only to the membership and distributed as a separate document.
3. **1980 IASSIST Annual Meeting.** The Conference treasurer, B. NOBLE, gave a preliminary budget report. The General Assembly congratulated the Washington, D.C. planning committee for the meeting.
4. **Committee Reports.** Reports by the Classification and Process-Produced Action Groups, and Publications, Membership, Education, Constitution, and Nominations and Elections Committees were made and unanimously approved and accepted. Separate reports will be filed by each committee chair and published in the *IASSIST Newsletter*. A new interest group was proposed, Data Services: Development and Management, to succeed earlier action groups (Data Archive Development and Data Organization and Management), to be chaired by L. RUUS and D. TREES; the recommendation was accepted.
5. **Name Change of IASSIST.** The motion to change the name was debated. The motion was withdrawn. The name will not change.
6. **Forthcoming Annual Conferences.** The General Assembly showed a preference for a Spring date

for the joint IASSIST/IFDO 1981 conference to be held with the Centre National de Recherches Scientifiques (CNRS) in France and requested that this preference be communicated to the IFDO organization. Reasons for the Spring and not Fall preference were cited: fall schedules for the academic year and professional society meetings which would conflict. Discussion continued on the possibility of regional meetings in other areas of the world during 1981, recognizing that few IASSIST members will be able to attend a meeting in Europe. The experiences of the California members were described. Members of IASSIST are urged to communicate ideas for topics and sessions to the IASSIST President and Secretaries. The General Assembly voted to hold the 1982 Annual Conference in California. Recommendations, suggestions for theme and sessions, etc. should be forwarded to J. MCGEE (Ms. Jackie McGee, The Rand Corporation, 1700 Main Street, Santa Monica, CA 90406 USA) for the 1982 conference.

7. **Revision to the Constitution.** The need for revision was discussed and the General Assembly was encouraged to participate.
8. **IASSIST Affiliation with a Journal.** J. ROWE communicated the interest of North Holland Publishing Company and Joseph Raben, Editor of *Computers and the Humanities*, for publishing a journal, *Computers and the Social Sciences*, which would be the official journal of IASSIST. Pros and cons of affiliation and responsibility for journal publication were discussed.
9. **Canadian Admin Com Membership.** The Canadian Secretary reported that an election to the Admin Com of a Canadian, to replace a recently resigned member, would be held this summer.

IASSIST
Treasurer's Statement for Calendar Year 1979
(issued March 12, 1980)
Treasurer: Ed Hanis

A. Revenues: Membership and Interest

1. Membership Fees

(Includes fees received for 1979 and previous years)	\$ 3,704.37
Asia.....	\$ 75.00
Australia, New Zealand.....	75.00
Canada.....	495.00
South America.....	15.00
United States.....	2320.00
Western Europe.....	724.37

2. Account Interest (Bank of Montreal Accounts) 141.83

SUBTOTAL: Membership Fees and Interest.....\$ 3,846.20

B. Revenues and Expenses: Conference and Workshops

1. Revenues: 1979 Ottawa Conference, fees and conf. grant	\$ 3,808.50
2. Expenses: 1979 Ottawa Conference	(4,641.76)
3. Expenses: 1977 Toronto Workshop	(76.41)
4. Expenses: 1980 Washington Conference (Printing and Mail)	(245.17)

SUBTOTAL: Net Revenue, Conference and Workshops... ..\$ (1,154.84)

C. Operating Expenses

1. <u>Newsletter</u> printing and mailing (Vol. 2 No. 2, 3, 4 Vol. 3 No. 1)	\$ (1,217.31)
2. Subscriptions to <u>s s data</u> , 187 @ \$3.00	(561.00)
3. IASSIST Headquarters Expenses (1 May 1978 - 30 April 1979, paid in 1979)	(525.00)
4. IASSIST President's Expenses (Postage, Printing, Telephone)	(172.30)

SUBTOTAL: Operating Expenses.....\$ (2,475.61)

D. Cash Position as of December 31, 1979

1. Carry Forward from 1979 (A + B + C)	\$ 215.75
2. Carry Forward from Previous Years	<u>5,027.28</u>

TOTAL CASH ON HAND:.....\$ 5,243.33

Canadian Dollars Account Balance: \$ 1,007.33
United States Dollars Account Balance: 4,236.00

TOTAL:.....\$ 5,243.33

All amounts in Canadian or United States dollars.

DATA SERVICES: DEVELOPMENT AND MANAGEMENT INTEREST GROUP REPORT 1980.

An ad hoc combined meeting of persons interested in a number of IASSIST action groups was held at the IASSIST Annual Conference, Washington, DC, May 2-4, 1980. A great deal of discussion centered on the history and accomplishments (if any) of the action groups; the tenor of the discussion suggested strongly that although the action group structure was perhaps inappropriate, there was sufficient interest among the membership that some forum for discussion continue. The following recommendations were presented at the final IASSIST business meeting, and were accepted:

1. That an interest group entitled "Data Services: Development and Management" be recognized.
2. That this interest group be recognized as a successor to such action groups as Data Archive Development, Data Organization and Management, Data Acquisition, Data Archive Registry.
3. That a meeting with an ample time slot be called at every IASSIST conference, but that the level at which the meeting be held be entirely informal. It has been suggested that a central theme of discussion could be announced before each

meeting, through the medium of the IASSIST Newsletter. The objective of the meeting would be entirely to "sit around and talk" about new developments, common problems and optimum solutions, etc.

4. That although this be recognized as an *interest group*, the conduct of special projects need not be precluded.
5. That discussions from this interest group might indicate themes of workshops and/or sessions at IASSIST conferences.

Projects: two projects were suggested and will be implemented in the near future:

1. An address list of all known data archives/libraries (Don Trees, Rand Corp., and Laine Ruus, UBC Data Library).
2. Bibliography of the publications of IASSIST members (John MacDonald, MRAD/PAC).

Co-chairmen: Laine Ruus (UBC Data Library), Don Trees (Rand Corp.)

RESULTS OF EDUCATION COMMITTEE SURVEY

At the 1979 IASSIST Conference it was agreed to pursue the topic of "Education" by establishing a standing committee on Education, to be co-chaired by John McDonald and Laine Ruus.

In order to gain an appreciation of the scale of activity already being conducted in the area of education it was decided to conduct a survey of the membership. As well as requesting information on available education and training programs the survey also suggested that members submit their own ideas concerning the potential for implementing an education program for the training of data archivists/librarians. Of 120 letters forwarded to the membership, the committee received 15 replies.

It was found that, of the education programs

described, many had been developed within the structure of a library school, having evolved from their experiences with bibliographic systems. Other programs, however, were associated with social science libraries or computing centers and had grown in response to the data needs of the research community.

Many respondents felt that the proposed Education program should be attached to a library or library/information science program or, according to some, an interdisciplinary program which would include abstracting from librarianship, data processing from computer science, and research methods and survey design from the social sciences. It was also generally felt that the program should be at the post-graduate level and that IASSIST should play a strong

role in the development of the structure and guidelines associated with the program. According to one respondent IASSIST should also be responsible for providing teachers and instructors. A career information package on data librarianship, to be sent to advisors in undergraduate social science programs, was also suggested.

Training programs, workshops, or seminars were not considered adequate on their own, and most respondents felt that a formal education program was required. A number suggested that the program contents could be developed through an analysis of the skills required to satisfy the job descriptions of data archivists/librarians, and the listing of those skills which are not taught in library schools. A proposed education program consisting of courses required to obtain these skills could then be presented to an appropriate institution.

In addition to a formal "basic" education program it was also agreed that continuing education through workshops and seminars should be encouraged. Many agreed that greater uniformity in the quality and structure of training programs was required and that this could possibly be achieved through a "package" of IASSIST recommendations concerning course contents and structure. A number of respondents suggested that an internship program, developed and monitored

by IASSIST, would be useful. One suggested that a number of data archives could each establish a one or two week training program consisting of workshops and seminars in a field for which they were particularly knowledgeable. Applicants could then apply through IASSIST to the institution of their choice.

Other ideas were also suggested concerning the structure and role of a continuing education program. One was concerned with the possibility of conducting an apprenticeship or internship program by correspondence. Another suggested that the program could be structured as a summer course with full academic program that could be transferred to a library science or social science degree. A related idea suggested that IASSIST, as a monitoring agent, should issue certificates for those successfully completing the program.

The results of the survey were reported at an open session of the Education Committee held at the IASSIST 80 Conference on Thursday evening, May 1st. Twelve members attended and after much discussion it was agreed that the Education Committee should continue and that a mandate and set of objectives should be developed. These were defined at the meeting and submitted at the Plenary Session for the approval of the membership.

REPORT OF THE IASSIST EDUCATION COMMITTEE, 1979/80

A meeting of the Education and Training Interest Group was held in conjunction with the IASSIST Annual Conference, Washington, DC, May 2-4, 1980. A report on the survey of the membership conducted in 1979/80 on existing courses and opportunities for training and education, and on preferred future developments, was presented and discussed. Based on the results of the survey and on the tenor of the discussion at the meeting, a mandate and series of objectives was presented to the final business meeting and accepted without demur. The interest group now has committee status, and is co-chaired by John MacDonald and Laine Ruus.

Mandate: to develop, establish, and maintain educational programs and professional standards appropriate to those managing machine-readable data files (mrdf).

Objectives: There are two separate issues here: basic education and continuing education. To the issue of basic education:

- 1 To collect from functioning data archivists/librarians their job descriptions; to develop from these a listing of the common skills basic and or necessary to the job of managing mrdf; to develop from this the outline of a core curriculum; and to develop from this a suggested outline of courses commonly given at most universities in one form or another. Within IASSIST, to develop a mechanism for monitoring course content at various institutions, such that an individual can, upon having successfully completed the recommended mix of courses, receive a certificate from IASSIST to that effect. It is of course hoped that this will eventually

develop into full-fledged graduate level programs, similar to that given at the University of Wisconsin-Madison.

2. On the basis of the core curriculum outline, to approach functioning data archives/libraries to cooperate in an internship training program, i.e., to persuade them to accept, for short periods of time, interns to be given intensive training in certain skills, procedures, etc., at the basic level.

To the issue of continuing education:

3. To encourage IASIST to continue the policy of pre-conference workshops in special subjects, begun at the 1980 annual conference. And further, to encourage the development of regional chapters of IASIST, such as the West Coast chapter, and the development at these chapter meetings of "spin-off" workshops.
4. To produce on a continuing basis a listing of upcoming courses, seminars, workshops or training sessions which might be of interest to data archivists/librarians, to be published as a regular feature of the IASIST newsletter, and to maintain

a clearinghouse of this type of information.

5. Similar to (2) above, to allow internships at the advanced level, i.e. intensive training, in-house, in advanced skills at institutions with a particular specialization or area of expertise.

Order of operations:

- Within the next year to collect job descriptions of working data archivists/librarians, develop a list of common skills, and the outline of a core curriculum. (John MacDonald)
- Within the next year to publish a listing of upcoming courses, seminars, etc. in the IASIST newsletter. (Laine Ruus)
- To solicit from the membership priorities of workshop topics as input to the planning of future IASIST conferences. (Laine Ruus)

John MacDonald, Machine Readable Archives Division, Public Archives of Canada

Laine G.M. Ruus, University of British Columbia Data Library

REPORT ON THE CLASSIFICATION ACTION GROUP OF IASIST

(May 2-3, 1980)

Members present; Patrick Bova, Sue Dodd, Jo Ann Dionne, Sue Gavrel, Gert Lewis, Howard White, and Ann Wood.

First order of business was to discuss the feasibility of continuing the CAG. There was a consensus that the CAG should continue as long as members are interested in working and as tasks can be defined.

Second order of business was a discussion of the CAG original mandate and whether the mandate should be revised to reflect the current activities of the group. It was decided that the mandate should be revised. Sue Gavrel agreed to write up a preliminary mandate which will be reviewed by the members. The members present felt that many necessary first-steps had been taken to facilitate bringing bibliographic control to social science data and that the future direction of the CAG would see a shift from those preliminary steps to establish good bibliographic practice to areas more closely related to classification. Tasks and topics for the future might include: review of current subject

classification schemes; manual vs. automated indexing; controlled vocabulary for social science data; and item level indexing.

From this general discussion, three tasks were defined for consideration:

Task #1. Contacting editors of appropriate social science journals and recommending that they provide as part of their "guide to authors" instructions on how to cite a social science machine-readable data file.

CAG members agreed to send Dodd titles and addresses of social science journals (including current editors). After identifying the editors, the CAG would draft an appropriate letter.

We would point out that a precedent had been established for doing this with the POPULATION INDEX. We would also cite two articles on the subject:

Dodd, S.A. "Bibliographic References for Numeric Social Science Data Files: Suggested Guidelines" *Journal of the American Society for Information Science* 30 (2) March 1979; 77-82.

Rowe, J.S. "Population Index to Cite Publicly Available Machine-Readable Data Files" *Population Index*, October, 1979.

Letters would also be sent to authors of "style manuals."

Task #2. Feasibility of compiling a core subject classification scheme for social science data to be used by data libraries and archives.

A core subject classification scheme for social science data would do two things: (1) bring us closer to a common subject classification scheme across all information centers; and (2) prevent new data centers from having to compile such a scheme from scratch.

All existing subject classification schemes would be reviewed and studied in terms of overlap and value for a generalized classification scheme. A composite scheme would be compiled from this effort and presented in a subsequent IASSIST Newsletter calling for comments and suggestions.

A final report would be written and submitted by the CAG.

Task #3. Review of Existing Thesauri in the Social Sciences.

Thesauri in the Social Sciences will be reviewed by CAG members for their utility for extracting descriptor terms related to data content and for building an authority list of key terms which could be used in an automated bibliographic system.

A list of thesauri will be compiled and members will select the ones for review. A check list of necessary elements will be provided, including the presence of definitions, scope notes, cross references, hierarchical levels, etc.

Each thesauri will be tested on no less than five data files and findings documented. If acceptable, these reviews might be included in the IASSIST Newsletter.

Related to this was the offer of Ann Wood of CITIBANK, N.A. (NYC) to prepare a brief report on her recent experience compiling an index of terms for CITIBASE (an on-line/batch economic time series data base dating from 1948 to the present).

Anyone interested in participating in these tasks should contact Sue Dodd or Sue Gavrel.

Submitted by,
Sue A. Dodd

YALE REVISES DIRECTORY OF DATA HOLDINGS

The Social Science Data Archive at Yale University has recently completed a revision of its *Directory of Data Holdings and Services*. The *Directory* is available as a printout on 8½ × 11" paper. The cost is \$3.50, which includes postage and handling. Prepayment is requested. Checks should be made payable to Yale University and sent to:

JoAnn Dionne
Social Science Library
Box 1958, Yale Station
New Haven, CT 06520

STEINMETZ ARCHIVES RELOCATED

Steinmetz Archives (a section of Sociaal-Wetenschappelijk Informatie- en Documentatiecentrum or SWIDOC) has a new address: Herengracht 410-412, 1017 BX Amsterdam, the Netherlands. Telephone 020-22 50 61.

The buildings, pictured right (412, left; 410, right), were originally designed by the famous Dutch architect Philip Vingboons in 1665 and 1667. Beautiful railings and a monumental garden house were added to number 412 in 1742. Later, during alterations in the beginning of the nineteenth century, the facade of number 412 was given round-arched roof ornaments. Several bankers established their firms in the premises during the nineteenth and twentieth centuries. In 1938 the last banking firm demolished number 410 and then reconstructed the building as an extension and adaptation to the style of number 412. Some remarkably fine rooms have been preserved in the interior of the building.



NEW CENSUS TEXTBOOK RELEASED

CENSUS '80: Continuing the Factfinder Tradition, by Charles P. Kaplan, Thomas Van Valey and associates, consists of four parts and an appendix. Part I provides the context within which the decennial censuses were and are conducted. The history of census taking in the United States is described (chapter 1), the reader is introduced to the Census Bureau as an organization (chapter 2), and several issues of current and continuing relevance to the planning and administration of the decennial census are examined (chapter 3). Part II focuses on the concepts and principles that are fundamental to the ways that census data are collected and tabulated. An overview of census geography is provided in chapters 4 and 5. The relationship of governmental areas and their boundaries to the census is described first and is followed by a chapter that explores the census geography needs of a changing United States. Beyond knowing the geographic areas for which data are collected and reported, one needs to be aware of the concepts, definitions, and limitations of census data so they are used intelligently (chapter 6). Several of the concepts and principles are explored in a chapter on demography (chapter 7), one of the major professional

fields studying populations.

Part III provides an overview of the 1980 census. Chapter 8 begins with a discussion of the planning that began in 1973 for the 1980 census and is followed by a detailed discussion of the Census Bureau's field organization and data collection procedures (chapter 9). Chapter 10 describes statistical products and data user services that will be available to access 1980 decennial census data. Part IV concludes the volume by providing an overview of the uses of census data, primarily using case studies derived from the 1960 and 1970 decennial censuses. These four chapters, contributed by professors of urban and regional planning, business, geography, and demography (chapters 11 through 14), introduce the uses and applications of census data in the research community as well as the public and private sectors.

The book is for sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 003-024-02262-1, current price \$7.50.

For further information about the textbook and other aspects of the Census Bureau's College Curriculum Support Program please contact Les Solomon,

Coordinator, College Curriculum Support Program, Data User Services Division, Bureau of the Census.

APDU ANNUAL MEETING ANNOUNCEMENT

The Association of Public Data Users (APDU) will hold its 1980 Annual Conference at the Capital Hilton in Washington on October 6 and 7. APDU is a consortium of business organizations, universities, research groups, federal agencies, libraries, and others with a major interest in public machine-readable statistical products. The theme for this years' conference is *1980: Year of the Census*.

The entire program for Tuesday, October 7 will be devoted to presentations, discussions, and workshops concerning the 1980 census. Vincent Barabba, Director of the Bureau of the Census, will address the Tuesday luncheon meeting.

On Monday, October 6, non-census public data will be the topic. Presentations will be made concerning dissemination policy for public data, general data overviews from various Federal agencies, and information regarding specific data such as the Current Population Survey and the Survey of Income and Program Participation.

For more information, please contact Ms. Barbara Aldrich, APDU Annual Conference Program Chair, Data User Services Division, Bureau of the Census, Washington, D.C. 20233 (301-499-1667).

CLEARINGHOUSE ON EDUCATION AND TRAINING MATERIALS

Work has been underway on developing the Clearinghouse for Education and Training Materials at the College of Library and Information Services, University of Maryland, since the beginning of 1980. The Clearinghouse is an international undertaking to organize, announce and distribute copies of materials for use in education and training programs for information specialists (including librarians, documentalists, and archivists). The types of material included in the collection are: syllabi, reading lists, course bibliographies, course outlines, test problems, lecture notes, audiovisual aids, etc.

The Clearinghouse now has in its collection some material in the following broad subject fields: Computer Science, Information Science and Documentation, Information Storage and Retrieval, Reference Work, Information Services, Libraries and Library Science (General), Library Management and Administration, Library Networks, Archives, Systems Analysis, and Social Sciences.

When a specific inquiry is received requesting material contained in the collection which is suitable for photocopying, a copy is made and dispatched to the inquiring institution. Where inquiries result in the identification of materials in the collection which are too bulky, covered by copyright control, or otherwise unavailable for photocopying, inquirers are notified about the availability of appropriate material through referral to the organizations which produce the material.

The Clearinghouse is conducted by the International Federation for Documentation Education and Training Committee in close collaboration with the FID Secretariat and UNESCO. It is being supported in part under the terms of a contract between the UNESCO General Information Programme and the International Federation for Documentation (FID), and is centered at the University of Maryland, College of Library and Information Services, under the direction of Professor Paul Wasserman, who is Chairman of FID/ET.

Collaborating with him in the development of the Clearinghouse is Professor Hans Wellisch, also of the University of Maryland faculty.

Materials relevant for inclusion in the Clearinghouse are solicited from ongoing education and training programs as acquisitions to bolster the collection. In order to increase the files and make the collection more suitable for resolving the requests of inquirers, it is essential that professors, institute and workshop directors, and those responsible for educational and training efforts cooperate by depositing a copy of their materials with the Clearinghouse. Materials and inquiries can be addressed to: Clearinghouse, College of Library and Information Services, Undergraduate Library Building, University of Maryland, College Park, Maryland 20742 USA.

Materials are being distributed without charge in response to inquiries from organizations and institutions in the information field, with particular emphasis placed upon assisting with the needs of institutions, faculty and program developers in regions of the world at earlier stages of development.

The Clearinghouse is also beginning to announce its services in the *Newsletter on Education and Training Programs for Specialized Information Personnel*, where on a selective basis, materials in the Clearinghouse collection will be identified as available for distribution. The *Newsletter* is issued four times a year as a supplement to the *FID News Bulletin*.

The Clearinghouse on Education and Training Materials is one of the several continuing programs of FID/ET, in cooperation and collaboration with other national and international organizations in the information field and is under the direction of an advisory board made up of the members of the Committee whose composition includes representatives from more than 30 countries. The Clearinghouse is maintained in close proximity to the library collection of the College of Library and Information Services at the University of Maryland, and calls upon this broader collection in responding to inquiries of a more general nature on educational materials.

"BY THE SEAT OF MY PANTS"

IASSIST 1980: Welcoming Remarks

Alice Robbin

Members of IASSIST are witnesses to, and indeed participants in, a revolution in the technologies of data processing, storage, and transmission on which the handling of information so heavily depends. We have seen a technology change the relationship between the individual and information, and alter the economic structure of society. We recognize that this technology has the potential for transforming an individual culture, where discrimination will be based less on the storage of information than on the ability to research and use it.¹ In the last few decades, there have been great progress and achievements in information transfer, a desire to make effective use of information and diverse forms of communication, support for basic research to understand information problems, and a desire to ensure policy relevance, quality, and integrity.

Yet many of the stakeholders in the information transfer system are becoming dissatisfied, disillusioned, and even frustrated with the performance of the system as a whole.² The information system has not been capable of assuring an adequate transfer of information to its potential users. Nor has it been capable of providing the average user with convenient and efficient means of making himself aware of all the information he requires.³ Information transfer activities have not resulted in an equitable distribution of and access to information.

What are the reasons for the present situation? They are many. Technology has developed faster than our ability to use it in an intelligent way. Although in recent years we have witnessed the appearance of new techniques and methods for handling information

transfer, none of them, contrary to the claims of their partisans, is or promises to be the "ultimate answer" to all problems; nor is there any evidence that there is a "best way" of handling information transfer. Too many optimistic promises were made during the 1960s and well into the 1970s, and expectations about the utility of various techniques and technologies were raised too high.

The constellation of issues is complex and the issues are highly interdependent. There is a plethora of divergent and competing interests, groups and institutions with a stake in a particular outcome, groups whose remuneration, reputation, and advancement hinge on parochial and short-term decisions which do not promote effective planning for future information needs. It is recognized that no single stakeholder is "capable of implementing significant change on his own."⁴ Problems inherent in the scientific and technical information system are of such magnitude and complexity that a significant (and perhaps unattainable) commitment of technology, resources, and expertise is necessary to improve the present situation and to affect the future. Finally, what the complex lacks is a clear idea of where it as a whole should be heading.⁵

As members of IASSIST and among the principal stakeholders in a scientific and technical information transfer system, we are thus faced with significant challenges in our daily activities and our interactions with other participants in the system. How do we respond? How do we attack the problems I have just recited?

First, we must recognize that the information transfer system includes not only a technological component, but social, political, and economic ones as well. Second, we must recognize that society must develop plans to meet future information needs efficiently in the face of technical, social, and economic changes. I concur with Davis and Sachs who propose nothing less

¹ Nora, Simon and Minc, Alain. *The Computerization of Society: A Report to the President of France*. Cambridge, MA: The MIT Press, 1980 (English translation).

² Davis, Peter and Sachs, Wladimir. "The Implementation of SCATT." *Journal of the American Society for Information Science*, 31(2), p. 67.

³ *Ibid.*, pp. 67-68.

⁴ *Ibid.*, p. 69.

⁵ *Ibid.*

than a transformation of the current aggregate of parts into a purposeful whole. There is a clear need to organize for improvement in the whole by those of us with an investment and interest in the parts. It is the establishment of cooperative activity among those elements in the system which are the source of conflict. We must provide the basis for systematic change and for new directions for the scientific and technical information field as an *integrated* set of activities. We must be motivated cognitively and emotionally to produce an active system and committed to full involvement in planning for what is operationally viable.

The 4th Annual Conference of the IASSIST offers its members the opportunity to participate in this

challenge. Today and tomorrow, stakeholders involved in all aspects of statistical data transfer--government, industry, researcher and analyst, administrator and bureaucrat, information specialist *cum* librarian and archivist, and computer scientist--will offer their respective views of sources of conflict, user-oriented systems, active man-machine interfaces, new directions for intellectual inquiry, and new roles and responsibilities for stakeholders. This conference offers a unique responsibility to discuss and debate some of the important policy, administrative, research, and technical issues related to developing and evaluating statistical data systems, managing and facilitating the flow of data, and meeting the information needs of different user communities.



international association for social science
information service and technology
l'association internationale pour les
services et techniques d'information
en sciences sociales

OBJECTIVES

- Encourage and support the establishment at local and national levels of information centers for data base reference, maintenance, and dissemination
- Foster international dissemination and exchange of information on significant developments in information centers for statistical and textual machine-readable data bases
- Coordinate on an international level programs, projects, and general procedural efforts which provide an international forum for the discussion of problems relating to information centers
- Promote the development of professional standards and encourage the establishment of training for data center personnel

ACTIVITIES AND MEMBER PARTICIPATION

Members participate in Action Groups organized to address problems in the following areas: Data Archive Registry, Data Archive Development, Data Acquisition, Data Documentation, Classification, Process-Produced Data, and Data Organization and Management

The Action Group activities include development of a registry of data libraries, archives, and information services; writing of a guide to providing social science data services for research, policy and planning purposes; development of standards for data acquisition, documentation of sample survey and process-produced data, bibliographic control and citation of social science machine-readable data, and the relationship of study design to data management; and, creating a directory of catalogues which list machine-readable data files

Other activities include regional and international workshops, conferences, seminars and training sessions.

PUBLICATIONS

IASSIST Newsletter: A quarterly publication on activities relating to the production, acquisition, preservation, processing, distribution, and utilization of machine-readable data in the international social science community

IASSIST Conference Proceedings

MEMBER BENEFITS

IASSIST Newsletter

S.S. Data: A Newsletter of Social Science Archival Acquisitions (a quarterly publication from the University of Iowa, describing social science data acquisitions around the world)

Special rates on other IASSIST publications

(See other side to indicate Action Group)

NAME _____

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Individual: Regular \$15 _____ Student \$5 _____ Charter \$100 _____

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Library subscription: \$25 _____

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SECRETARIATS

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Judith Rowe, UNITED STATES SECRETARIAT, Computer Center, Princeton University, 87 Prospect Avenue, Princeton, New Jersey 08540, USA

MEMBERSHIP

Institutions and individuals interested in social science machine-readable data can become members of IASSIST.

Individual Membership: Anyone interested in the objectives of IASSIST can become a regular voting member for a fee of \$15 per year

Charter Membership: Individuals interested in the objectives of IASSIST and wishing to contribute to the advancement of social science data can become a charter member for \$100 which includes three years annual membership and all IASSIST publications issued during that period

Student Membership: Students registered full-time at a university or post-graduate course can join for a fee of \$5 per year

Institutional Membership: Any organization or institution interested in the goals of IASSIST and wishing to contribute to the development of social science data can become an institutional member for \$35 per year

(Over for membership application)

Indicate interest in participation in one of the following Action Groups:

___ DATA ARCHIVE REGISTRY

___ DATA ORGANIZATION AND MANAGEMENT

___ DATA ARCHIVE DEVELOPMENT

___ CLASSIFICATION

___ DATA ACQUISITION

___ DOCUMENTATION

___ PROCESS-PRODUCED DATA



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sciences sociales

